



DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2022-0992 Project Identifier MCAI-2022-00173-R; Amendment 39-22229; AD 2022-23-02]

RIN 2120-AA64

Airworthiness Directives; Bell Textron Canada Limited (Type Certificate Previously Held by Bell Helicopter Textron Canada Limited) Helicopters

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: The FAA is superseding Airworthiness Directive (AD) 99-23-18, AD 2005-03-07, AD 2013-12-07, and AD 2014-04-07, which applied to certain Bell Helicopter Textron Canada (now Bell Textron Canada Limited) Model 407 helicopters. AD 99-23-18 required revising the life limits for certain parts, replacing each part that had exceeded its life limit, and revising the Airworthiness Limitation Section (ALS) of the existing maintenance manual. AD 2005-03-07 required establishing a maximum accumulated Retirement Index Number (RIN) count for certain crosstube assemblies and revising the ALS of the existing maintenance manual. AD 2013-12-07 required inspecting the tailboom assembly for a crack, loose rivet, or other damage and depending on the inspection results, replacing certain parts. AD 2014-04-07 required preflight checking, repetitively inspecting for a crack in certain tailbooms, modifying and re-identifying certain tailbooms, installing an improved horizontal stabilizer assembly, and revising the ALS of the existing maintenance manual. Since the FAA issued those ADs, a report was received of a crack on the tailboom lower skin due to fatigue damage and new and more restrictive airworthiness limitations have been issued. This AD was prompted

by a report of a crack on the tailboom lower skin due to fatigue damage and the issuance of new and more restrictive airworthiness limitations. This AD requires incorporating into existing maintenance records requirements (airworthiness limitations) as specified in the ALS service information. The FAA is issuing this AD to address the unsafe condition on these products.

DATES: This AD is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in this AD as of [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES:

AD Docket: You may examine the AD docket at [regulations.gov](https://www.regulations.gov) under Docket No. FAA-2022-0992; or in person at Docket Operations between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this final rule, any comments received, and other information. The address for Docket Operations is U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE, Washington, DC 20590.

Material Incorporated by Reference:

- For service information identified in this final rule, contact Bell Textron Canada Limited, 12,800 Rue de l'Avenir, Mirabel, Quebec J7J 1R4, Canada; telephone 1-450-437-2862 or 1-800-363-8023; fax 1-450-433-0272; email productsupport@bellflight.com; or at bellflight.com/support/contact-support.

- You may view this service information at the FAA, Office of the Regional Counsel, Southwest Region, 10101 Hillwood Pkwy., Room 6N-321, Fort Worth, TX 76177. For information on the availability of this material at the FAA, call (817) 222-5110. It is also available at [regulations.gov](https://www.regulations.gov) under Docket No. FAA-2022-0992.

FOR FURTHER INFORMATION CONTACT: Andrea Jimenez, Aerospace

Engineer, COS Program Management Section, Operational Safety Branch, Compliance & Airworthiness Division, FAA, 1600 Stewart Ave., Suite 410, Westbury, NY 11590; telephone (516) 228-7330; email andrea.jimenez@faa.gov.

SUPPLEMENTARY INFORMATION:

Background

The FAA issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 to supersede AD 99-23-18, Amendment 39-11414 (64 FR 61784, November 15, 1999) (AD 99-23-18), AD 2005-03-07, Amendment 39-13963 (70 FR 7016, February 10, 2005) (AD 2005-03-07), AD 2013-12-07, Amendment 39-17485 (78 FR 38546, June 27, 2013) (AD 2013-12-07), and AD 2014-04-07, Amendment 39-17766 (79 FR 35481, June 23, 2014) (AD 2014-04-07).

AD 99-23-18 applied to all Bell Helicopter Textron Canada (now Bell Textron Canada Limited) Model 407 helicopters. AD 99-23-18 was prompted by an engineering evaluation of additional flight test data, which resulted in redefining the service life for certain parts and revising the ALS of the existing maintenance manual. AD 99-23-18 required revising the life limits for certain parts, and replacing each part that had exceeded its life limit with an airworthy part. AD 99-23-18 also required revising the ALS of the existing maintenance manual to reflect these new life limits and annotating the component history card or equivalent record with the revised life limits.

AD 2005-03-07 applied to Bell Helicopter Textron Canada (now Bell Textron Canada Limited) Model 407 helicopters with certain part-numbered landing gear crosstube assemblies installed. AD 2005-03-07 was prompted by fatigue testing, analysis, and evaluation by the manufacturer that determined that run-on landings impose a high stress on landing gear or crosstubes and may cause cracking in the area above the skid tube saddle. AD 2005-03-07 required establishing a component history card or equivalent

record, converting accumulated run-on landings to an accumulated RIN count, and establishing a maximum accumulated RIN for certain crosstube assemblies. AD 2005-03-07 also required replacing any crosstube assembly before it exceeds the maximum RIN life limit and revising the ALS of the existing maintenance manual to reflect this new life limit.

AD 2013-12-07 applied to Bell Helicopter Textron Canada (now Bell Textron Canada Limited) Model 407 helicopters with certain part-numbered tailboom assemblies installed. AD 2013-12-07 was prompted by a stress analysis of the tailboom skin that revealed that high-stress-concentration areas are susceptible to skin cracking. AD 2013-12-07 required, for certain tailboom assemblies, inspecting the tailboom assembly for a crack or inspecting for a crack around each fastener and above the edge of the upper stabilizer support. AD 2013-12-07 also required, for certain tailboom assemblies, inspecting the tailboom assembly for a crack by using either a 10X or higher power magnifying glass, or by eddy current inspecting.

Additionally, AD 2013-12-07 required inspecting the tailboom assembly for a crack, loose rivet, or other damage, and depending on the inspection results, replacing the tailboom assembly with an airworthy part.

AD 2014-04-07 applied to Bell Helicopter Textron Canada (now Bell Textron Canada Limited) Model 407 helicopters serial numbers (S/Ns) 53000 through 53475, with certain part-numbered tailbooms installed. AD 2014-04-07 was prompted by additional reports of cracked tailboom skins. AD 2014-04-07 required for certain part-numbered tailbooms that have not been modified, conducting daily preflight checks of the tailboom for a crack; and for certain tailbooms, visually inspecting the tailboom for a crack using a 10X or higher power magnifying glass, modifying and re-identifying certain part-numbered tailbooms, and installing an improved horizontal stabilizer assembly. AD 2014-04-07 also required, for certain part-numbered tailbooms, after the

modification, establishing a component history card or equivalent record, and revising the existing ALS of the maintenance manual to reflect a new life limit.

Additionally, AD 2014-04-07 required, for certain part-number tailbooms, daily visual inspections of the tailboom for a crack, and using a 10X or higher power magnifying glass, inspecting each tailboom for a loose rivet, crack, skin corrosion, or any other damage. Depending on the inspection results, AD 2014-04-07 required corrective actions, including, if there is a crack, replacing the tailboom assembly.

The NPRM published in the *Federal Register* on August 15, 2022 (87 FR 50005). The NPRM was prompted by Transport Canada AD CF-2021-34, dated October 22, 2021 (Transport Canada AD CF-2021-34), issued by Transport Canada, which is the aviation authority for Canada, to correct an unsafe condition for Bell Textron Canada Limited Model 407 helicopters, S/N 53000 through 53900, 53911 through 54166, and 54300 and subsequent. Transport Canada advises of a report of a crack on the tailboom lower skin due to fatigue damage, which could affect the structural integrity of the tailboom. Transport Canada advises that Bell Textron Canada Limited issued a revision to the ALS, which adds a new inspection zone for tailboom assemblies to address the unsafe condition. Accordingly, Transport Canada AD CF-2021-34 requires compliance with Bell BHT-407-MPI, Chapter 04, ALS, Issue 3, dated June 21, 2021, of Bell Model 407 Maintenance Planning Information, PMC-407-97499-01000-00, Issue No. 005, dated July 6, 2022 (BHT-407-MPI, ALS Issue 3), which includes maintenance tasks and life limits for the tailboom and other parts. The FAA is issuing this AD to address the unsafe condition on these products.

You may examine the Transport Canada AD in the AD docket at [regulations.gov](https://www.regulations.gov) under Docket No. FAA-2022-0992.

Relationship Between AD 99-23-18, AD 2005-03-07, AD 2013-12-07, AD 2014-04-07, and this AD

AD 99-23-18 and AD 2005-03-07 were prompted by unsafe conditions not related to the tailboom crack that prompted this AD. However, the actions required to address the unsafe conditions in AD 99-23-18 and AD 2005-03-07 are included in BHT-407-MPI, ALS Issue 3. Therefore, the FAA is superseding AD 99-23-18, AD 2005-03-07, AD 2013-12-07, and AD 2014-04-07, in order to reduce the burden on operators by requiring compliance with a single AD in lieu of multiple FAA ADs.

AD 99-23-18 required reducing the life limit for drive ring set part number (P/N) 406-010-126-107 from 49,000 RIN to 48,000 RIN, and replacing each part that has exceeded its life limit. BHT-407-MPI, ALS Issue 3 states the life limit for drive ring set P/N 406-010-126-107 is 100,000 RIN.

AD 2005-03-07 required establishing a maximum accumulated RIN for certain crosstube assemblies of 5,000 RIN and replacing any crosstube assembly before it exceeds the maximum accumulated RIN. BHT-407-MPI, ALS Issue 3 adds an additional life limit to certain part-numbered crosstube assemblies of 2,500 landings or 5,000 RIN.

AD 2013-12-07 required for certain part-numbered tailboom assemblies and with certain hours TIS, inspecting the tailboom assembly for a crack. AD 2013-12-07 also required either inspecting using a 10X or higher power magnifying glass and thereafter repeating that inspection or eddy current inspecting and thereafter repeating the eddy current inspection. Additionally, AD 2013-12-07 required inspecting the tailboom assembly for a loose rivet, crack, or other damage.

BHT-407-MPI, ALS Issue 3 adds tailboom assembly P/N 407-530-013-105 and successive dash numbers, and also specifies for tailboom assembly P/N 407-530-013-105 and successive dash numbers and P/N 407-030-801-201 and successive dash numbers, inspecting for a crack; and for certain tailbooms inspecting using a 10X magnifying glass inspection method, or eddy current inspecting; and for certain tailboom assemblies, inspecting for a crack either with a daily visual inspection or with a 10X magnifying

glass inspection method. Additionally, BHT-407-MPI, ALS Issue 3 specifies additional inspection zones, intervals, and criteria.

AD 2014-04-07 required modifying and re-identifying certain part-numbered tailbooms, and for these re-identified tailbooms, establishing a retirement life of 5,000 hours TIS, daily checks for a crack, and recurring inspections using a 10X or higher power magnifying glass for a loose rivet, a crack, skin corrosion, or other damage. BHT-407-MPI, ALS Issue 3 specifies for tailboom P/N 407-530-014-101 and successive dash numbers, and P/N 407-030-801-107 and successive dash numbers, daily and recurring inspections for a crack. BHT-407-MPI, ALS Issue 3 also revises the inspection areas.

Discussion of Final Airworthiness Directive

Comments

The FAA received no comments on the NPRM or on the determination of the costs.

Conclusion

These helicopters have been approved by the aviation authority of Canada and are approved for operation in the United States. Pursuant to the FAA's bilateral agreement with Canada, Transport Canada, its technical representative, has notified the FAA of the unsafe condition described in its AD. The FAA reviewed the relevant data and determined that air safety requires adopting this AD as proposed. Accordingly, the FAA is issuing this AD to address the unsafe condition on these helicopters. This AD is adopted as proposed in the NPRM.

Related Service Information under 1 CFR Part 51

The FAA reviewed BHT-407-MPI, ALS Issue 3, which specifies certain actions and associated thresholds and intervals, including life limits and maintenance tasks. These requirements (airworthiness limitations) include new inspection zones and new maintenance tasks (e.g., inspections for cracks) with new compliance times.

This service information is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in ADDRESSES.

ADs Mandating Airworthiness Limitations

The FAA has previously mandated airworthiness limitations by mandating each airworthiness limitation task (e.g., inspections and replacements (life limits)) as an AD requirement or issuing ADs that require revising the ALS of the existing maintenance manual or instructions for continued airworthiness to incorporate new or revised inspections and life limits. This AD, however, requires operators to incorporate into maintenance records required by 14 CFR 91.417(a)(2) or 135.439(a)(2), as applicable for your rotorcraft, the requirements (airworthiness limitations) identified in the ALS service information, as described previously. The FAA does not intend this as a substantive change. For these ADs, the ALS requirements for operators are the same but are complied with differently. Requiring the incorporation of the new ALS requirements into the existing maintenance records, rather than requiring individual ALS tasks (e.g., repetitive inspections and replacements), requires operators to record AD compliance once after updating the maintenance records, rather than after every time the ALS task is completed.

Differences Between this AD and the Transport Canada AD or the Service Information

Transport Canada AD CF-2021-34 does not supersede any previously issued Transport Canada ADs, whereas this AD supersedes FAA AD 99-23-18, AD 2005-03-07, AD 2013-12-07, and AD 2014-04-07. The airworthiness limitations specified in Transport Canada AD CF-2021-34 encompass the requirements of AD 99-23-18, AD 2005-03-07, AD 2013-12-07, and AD 2014-04-07.

Additionally, Transport Canada AD CF-2021-34 is applicable to certain serial-numbered Bell Textron Canada Limited Model 407 helicopters, whereas this AD is applicable to all serial-numbered Model 407 helicopters.

The service information specifies replacing each component before exceeding the applicable airworthiness life limit, accomplishing all applicable maintenance tasks within the defined thresholds and intervals, and performing the specified corrective action(s) if a defect is found during the inspection, whereas this AD requires incorporating requirements (airworthiness limitations) into existing maintenance records within 30 days after the effective date of this AD.

Costs of Compliance

The FAA estimates that this AD affect 791 helicopters of U.S. registry. Labor rates are estimated at \$85 per work-hour. Based on these numbers, the FAA estimates the following costs to comply with this AD.

Incorporating requirements (airworthiness limitations) into existing maintenance records takes about 2 work-hours for an estimated cost of \$170 per helicopter and \$134,470 for the U.S. fleet.

Authority for this Rulemaking

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. Subtitle VII: Aviation Programs, describes in more detail the scope of the Agency's authority.

The FAA is issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701: General requirements. Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority

because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

Regulatory Findings

The FAA has determined that this AD will not have federalism implications under Executive Order 13132. This AD will not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify that this AD:

- (1) Is not a “significant regulatory action” under Executive Order 12866,
- (2) Will not affect intrastate aviation in Alaska, and
- (3) Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

The Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA amends 14 CFR part 39 as follows:

PART 39 - AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

2. The FAA amends § 39.13 by:

- a. Removing Airworthiness Directive 99-23-18, Amendment 39-11414 (64 FR 61784, November 15, 1999); Airworthiness Directive 2005-03-07, Amendment 39-13963 (70 FR 7016, February 10, 2005); Airworthiness Directive 2013-12-07, Amendment 39-

17485 (78 FR 38546, June 27, 2013); and Airworthiness Directive 2014-04-07, Amendment 39-17766 (79 FR 35481, June 23, 2014); and

b. Adding the following new airworthiness directive:

2022-23-02 Bell Textron Canada Limited (Type Certificate Previously Held by Bell Helicopter Textron Canada Limited): Amendment 39-22229; Docket No. FAA-2022-0992; Project Identifier MCAI-2022-00173-R.

(a) Effective Date

This airworthiness directive (AD) is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

(b) Affected ADs

This AD replaces the ADs specified in paragraphs (b)(1) through (4) of this AD.

(1) AD 99-23-18, Amendment 39-11414 (64 FR 61784, November 15, 1999).

(2) AD 2005-03-07, Amendment 39-13963 (70 FR 7016, February 10, 2005).

(3) AD 2013-12-07, Amendment 39-17485 (78 FR 38546, June 27, 2013).

(4) AD 2014-04-07, Amendment 39-17766 (79 FR 35481, June 23, 2014).

Note 1 to paragraph (b): The requirements of this AD capture the latest tasks and life limits required to prevent the unsafe conditions addressed by the ADs that are identified in paragraphs (b)(1) through (4) of this AD.

(c) Applicability

This AD applies to all Bell Textron Canada Limited (type certificate previously held by Bell Helicopter Textron Canada Limited) Model 407 helicopters, certificated in any category.

(d) Subject

Joint Aircraft Service Component (JASC) Code: 5300, Fuselage Structure.

(e) Unsafe Condition

This AD was prompted by a report of a crack on the tailboom lower skin due to fatigue damage and the issuance of new and more restrictive airworthiness limitations. The FAA is issuing this AD to prevent failure of a part, which could result in loss of control of the helicopter.

(f) Compliance

Comply with this AD within the compliance times specified, unless already done.

(g) Required Actions

Within 30 days after the effective date of this AD, incorporate into maintenance records required by 14 CFR 91.417(a)(2) or 135.439(a)(2), as applicable for your helicopter, the requirements (airworthiness limitations) specified in Bell BHT-407-MPI, Chapter 04, Airworthiness Limitations Schedule, Issue 3, dated June 21, 2021, of Bell Model 407 Maintenance Planning Information, PMC-407-97499-01000-00, Issue No. 005, dated July 6, 2022.

(h) Provisions for Alternative Requirements (Airworthiness Limitations)

After the actions required by paragraph (g) of this AD have been done, no alternative requirements (airworthiness limitations) are allowed unless they are approved as an alternative method of compliance (AMOC) in accordance with the procedures specified in paragraph (j)(1) of this AD.

(i) Special Flight Permits

Special flight permits may be issued in accordance with 14 CFR 21.197 and 21.199, provided no passengers are onboard.

(j) Alternative Methods of Compliance (AMOCs)

(1) The Manager, International Validation Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the

manager of the International Validation Branch, send it to the attention of the person identified in paragraph (k)(1) of this AD. Information may be emailed to: 9-AVS-AIR-730-AMOC@faa.gov.

(2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

(k) Related Information

(1) For more information about this AD, contact Andrea Jimenez, Aerospace Engineer, COS Program Management Section, Operational Safety Branch, Compliance & Airworthiness Division, FAA, 1600 Stewart Ave., Suite 410, Westbury, NY 11590; telephone (516) 228-7330; email andrea.jimenez@faa.gov.

(2) The subject of this AD is addressed in Transport Canada AD CF-2021-34, dated October 22, 2021. You may view the Transport Canada AD on the internet at regulations.gov in Docket No. FAA-2022-0992.

(l) Material Incorporated by Reference

(1) The Director of the Federal Register approved the incorporation by reference of the service information listed in this paragraph under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) You must use this service information as applicable to do the actions required by this AD, unless the AD specifies otherwise.

(i) Bell BHT-407-MPI, Chapter 04, Airworthiness Limitations Schedule, Issue 3, dated June 21, 2021, of Bell Model 407 Maintenance Planning Information, PMC-407-97499-01000-00, Issue No. 005, dated July 6, 2022.

(ii) [Reserved]

(3) For Bell Textron Canada Limited service information identified in this AD, contact Bell Textron Canada Limited, 12,800 Rue de l'Avenir, Mirabel, Quebec J7J 1R4,

Canada; telephone 1-450-437-2862 or 1-800-363-8023; fax 1-450-433-0272; email productsupport@bellflight.com; or at bellflight.com/support/contact-support.

(4) You may view this service information at FAA, Office of the Regional Counsel, Southwest Region, 10101 Hillwood Pkwy., Room 6N-321, Fort Worth, TX 76177. For information on the availability of this material at the FAA, call (817) 222-5110.

(5) You may view this service information that is incorporated by reference at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, email: fr.inspection@nara.gov, or go to: www.archives.gov/federal-register/cfr/ibr-locations.html.

Issued on October 27, 2022.

Christina Underwood, Acting Director,
Compliance & Airworthiness Division,
Aircraft Certification Service.

[FR Doc. 2022-26031 Filed: 11/28/2022 8:45 am; Publication Date: 11/29/2022]